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CHINA. No. IX.

CHINESE LADY, CHILD, AND ATTENDANT.

FILIAL PIETY OF THE CHINESE.

THE basis of the moral and political system of the Chinese is filial piety. The authority of a father over his family is the type of the authority of the emperor over the whole people; and it is as the general father of his subjects that the emperor claims their implicit obedience. The first of the "Four Books" inculcates that from the knowledge and government of oneself must proceed the proper government of a family; and from the government of a family, that of a province and a kingdom. The emperor is called the Father of the Empire; the viceroy is called the father of the province over which he presides; the mandarin, or magistrate, the father of the city which he governs; and the father of every family is the absolute ruler of his own household.

"The extent to which filial duty is carried by the Chinese," says Dr. Morrison, "is certainly a very leading feature in their character, and influences much all their reasonings about relative social duties." That those who are deficient in it will meet with their punishment in this world, is one of their doctrines. The proverb says, "The eaves' drop descends from a higher to a lower place, and a rebellious son will again beget contumacious and rebellious children." They otherwise express the same sentiment thus: "When in front of the eaves the rain-drop falls, drop after drop comes again on the mark of that which preceded it: he who is disobedient to his parents will have his own children imitate him."

"Of all the duties of the sons of men, there are none more important than serving one's parents during their life-time;" the other duties referred to

are those of sepulture, mourning, sacrificing to their manes, and so on.

Much of the Chinese reasoning on filial duty is built upon a saying of one of the sages, that "A man's body is the body of his parents descended to him." Not only is disobedience to his parents deemed a breach of filial duty, but every failure in attention to his own person, or the commission of any act which may bring disgrace or blame upon himself, is a want of filial duty, even although his parents may have been long since dead; because in disgracing himself he disgraces that body which he has derived from his parents, the very circumstance which ought to lead him to act so as to reflect honour upon them. In unison with this idea it is said, "A man's body, hair and skin, he derives from his parents; and not to dare to destroy or injure these is the beginning of filial duty."

The Chinese have works detailing at great length the various observances essential to the practice of filial piety, showing how parents are to be served during their life-time, at their interment, during the period of mourning, and subsequently by annual sacrifices at their tombs, or to a tablet dedicated to their memory. *Admonitions to the practice of Filial Piety* is the title of a tract given away at the temples of Buddha in China. It is headed thus: "Of all virtues filial piety is the first;" and begins with this sentence, "Filial duty is the root of all good actions." It winds up by urging children to beware of procrastination in performing their duty to their parents, for "the light and shade is but for a limited term," that is to say, time is short. There is a small classic on filial duty, ascribed to Confucius; it begins thus:

When father Chung-ne was sitting at leisure, and Tsang-tsze sitting by him, Confucius said, "The former kings possessed supreme virtue and important principles of righteousness, by the use of which they made obedient the people of the world, and kept in peace and harmony superiors and inferiors without resentments—Do you know these things?" Tsang-tsze rose from his seat and replied, "I, Tsan, am not clever; how should I be competent to understand these things?" After which Confucius said, "Behold! filial duty is the fundamental part of virtue," &c.

The ancient sage Mang-tsze, (or Mencius, as Europeans have Latinized his name), who lived about the same period as Xenophon and Socrates, said that there were in his days five ways, in which children showed a want of duty to their parents; first, by slothfulness; secondly, by gaming and drinking; thirdly, by a selfish love of gain, and an appropriation of it to their own wives and children, whilst they neglected their parents; fourthly, by gratifying their ears and eyes; and lastly, by wrangling and fighting.

The laws of China provide punishments for disobedience to parents and for neglect of them. When children or grand-children, are undutiful to parents, so that their father or mother commit suicide, a distinction is made by law, according as they have, or have not, irritated them by some gross offence. "Sons, or grandsons, opposing and offending against the instructions and commands of their parents," is the title of a section in the laws of China. It is followed by this provision, that any son or grandson who shall oppose and violate the instructions and commands of a grandfather or grandmother, a father or a mother, or shall be deficient in affording them support shall be punished by a hundred blows. It is stipulated, however, that the commands shall be lawful and just, and that ability to afford support shall be possessed; and it is required that the parents themselves prosecute. There is another provision, enacting, that if a son be poor, and unable to follow any occupation to afford support to his father and mother, so that his father and mother hang themselves, he shall receive a hundred blows and be transported three thousand *Le*.

There are "twenty-four cases of filial duty" which form a subject of comment in various popular tracts; and to illustrate them there are drawings cut in stone, from which fac-similes are taken for the use of schools. Each of these has an appropriate title, forming, as it were, the "moral" of the story to which it is prefixed. The first is entitled, *Filial piety influences and moves Heaven*; it refers to Yu-te-shun, a very ancient monarch who lived "during a period of much obscurity," upwards of two thousand years before the Christian era. "Shun was the son of a blind man; his father was stupid, his step-mother a scold, and his younger brother insolent; but he was able to harmonize them by his filial piety." Before he ascended the throne of China, which his predecessor resigned to him on account of his wisdom and virtue, he used to cultivate the land in the province of Shan-se; when "influenced by his virtues, the elephants tilled the ground for him, and the birds of heaven plucked up for him the weeds."

The title of the second case is, *He himself tasted every medicine*. This is said of the emperor Wan-te of the Han dynasty, who reigned from 174 to 151 B.C. During his mother's illness for three years, the emperor never closed his eyes; nor ever loosed the girdle of his raiment. That of the third is, *Biting her finger pained his heart*; and the object of the fable to which it is prefixed is to show the invisible influence that is exercised by a mother over a dutiful son. Tsan, a disciple of Confucius, was amongst the hills cutting fuel, when a friend called at the house; his mother bit her finger to rouse his attention and bring him home. At that very moment he felt a pain in his heart, and hastening home, fell down on his knees to ask his mother the cause: when she told him what she had done. This Tsan is the person who divorced his wife because she gave a pear insufficiently boiled to his mother.

Clad in a single garment he obeyed his mother, is the title of another, which refers to Min-keuen, whose mother died early, and whose father married a second wife who bore him two sons. This woman, during the winter months, in the northern parts of China, clothed her step-son with a single rush-flower garment, whilst she clad her own sons in cotton. Poor Min-keuen was driving his father's carriage one day, when he became so pinched with cold that he let the reins fall from his hand, whereupon his father chastised him. He would not vindicate himself, but bore the injury patiently. At last, however, his father found out what was the fact, and was about to divorce his wife, when the son remonstrated in the following couplet:—

Whilst mother remains *one* son is cold,
If mother leaves *three* sons will be destitute.

His father was persuaded to retain his wife, by which "the step-mother was excited to repentance, and also became an excellent mother."

The fifth title is this—*For a parent he carried rice on his shoulder*. This is said of Chung-yew, a disciple of Confucius. His family was poor, and to save for his mother's comfort, he himself ate the coarsest herbs, and carried rice for her use from the distance of a hundred *le*—about thirty English miles. After his parent's death Chung-yew became rich, and whilst taking a tour through the country attended by a hundred carriages and every luxury of that age, he set himself down, and sighing said, "Although I should now desire to eat coarse herbs and carry rice for my mother, it cannot be."

The next is *Play and embroidered garments were employed to amuse his parents.* This is affirmed of Laou-lae-tsze, a person of the Chow dynasty (606–242 B.C.) who, at the age of seventy, endeavoured by boyish tricks and play, to amuse his parents and make them forget their old age. *With deer's milk he supplied his parents,* is the title of the eighth case, which relates to Yeu-tsze, who also lived under the Chow dynasty. Both his parents became blind, and took a childish longing for deer's milk. Yeu-tsze clothed himself with the skin of a deer, and went amongst the ravines where deer herded together; and being concealed beneath the deer's skin, procured milk for his parents. The hunters, upon one occasion, deceived by his disguise, were on the point of shooting him with an arrow,—a risk which raised his reputation for filial piety. *He sold himself to bury his father—He hired himself to labour that he might supply every convenience to his mother*—and *He fanned the pillow and warmed the coverlet,* are titles of three other cases of which they express the leading feature.

The Gushing Fountain and the Leaping Fish is the title of a tale referring to Keang-she-tse, the wife of Keang-she; she lived during the Han dynasty, and is one of the most extraordinary of the instances of filial piety and devotion to the will of parents held up as examples by the Chinese. She showed the utmost duty to her own mother, and afterwards, in conformity to the usual maxims of the Chinese sages, to her husband's mother. The latter, in her old age, could eat of the carp only, and drink only of the water which was brought from the *Yang-tsze-keang,* or Great Yellow River; thither the obedient daughter-in-law willingly repaired every day to obtain a supply. Upon one occasion, however, she failed to do so, whereupon her husband, influenced by that extravagant devotedness to his mother which the Chinese admire, divorced his wife. Thus driven from her home, she worked night and day at weaving, and not only supported herself, but bought delicacies for her husband's mother, and sent them by the hand of an unknown person. This being discovered, her husband relented, and took her again into his house; and her son thenceforward became the bearer of the water from the river for the use of her mother-in-law. While performing this duty the boy fell into the stream and was drowned; Keang-she's wife, instead of upbraiding her husband and his mother, concealed the occurrence from the aged woman that her feelings might not be wounded. Finally, heaven, moved by such heroic self-control and respect for an aged mother, caused a spring to break forth by the side of Keang-she's cottage, which supplied both the water and the carp of the river without any effort to procure them.

The title of another case is, *He carved the wood and served his parents.* It refers to Ting-lau, who lived under the Han dynasty, and whose parents both died during his childhood. He carved wooden images to represent them, and served these inanimate figures as he would have served his living parents. His wife ridiculed him, and with her needle, in his absence, pricked the finger of one of the images, whereupon blood issued from it; and when the son of Lau appeared, the image shed tears. Lau found out the cause, and divorced his wife.

For his mother's sake he buried his child. This is said of Ko-keu, who had a child three years old, and an aged mother; from the poverty of the family his mother often suffered want of food. Keu said to his wife, "In the midst of our deep poverty it is impossible for us to feed both our mother and our child. We must, for our mother's sake, bury this child. We may obtain another child, but a lost mother cannot be replaced." The wife consented to the death of her child, and Keu forthwith dug a grave three cubits deep, when he suddenly saw a mass of yellow gold, on which was this inscription, "Heaven confers this yellow gold on Ko-keu, the dutiful son, and the government must not seize it, nor may any of the people take it from him."

On hearing thunder he wept at his mother's tomb. This is said of Wang-fow, who lived in the time of Wei, about 600 A.D. He served his mother with the utmost filial affection. During her lifetime she evinced a dread of thunder; and after her death, Wang-fow, whenever he heard the noise of thunder, immediately ran to her grave, knelt down, and with tears addressing her, said "Fow is here, mother, don't be afraid!"

"Alas!" may we exclaim, with Dr. Morrison, "what ignorance of 'life and immortality' is implied in this tale!"

Woo-mang fed the mosquitos, is the title of a tale referred to the Tsin dynasty. Woo-mang's father was so poor that he could not afford curtains to his bed, and in summer nights they both suffered much from mosquitos. The boy, in his eighth year, had such a dutiful feeling for his aged father, that he would not drive the mosquitos off himself, even when his skin was all over blistered, lest they should alight upon his parent and render him uncomfortable.

To apologize for the trivial and rather ridiculous nature of some of the "Twenty-four examples of filial piety," the Chinese say that the parties concerned were mostly simple people, poor, and uneducated, although most sincere. Several examples of great filial piety are recorded with much satisfaction by the Chinese historians, and some few examples of a great want of it are also recorded, and with very different feelings. The following is an instance of both cases: Wang-seu, a Chinese general, during the reign of He-tsung, finding provisions failing him on a march, gave orders that all the old and feeble should remain behind; if any presumed to disobey this order they should be put to instant death. The general's brothers, without his permission, ventured to take with them their aged mother. Wang-seu harshly reprimanded them, saying, "Every army possesses laws; no army can exist without them; not to destroy you for your disobedience to my order, is to render my army without laws." The brothers urged the peculiar case of their mother. The general became enraged, and issued an order to cut her head off. The brothers begged to be put to death first. The army interfered in their behalf, and procured a pardon. This is on record as an instance, on the one hand, of great filial piety, and on the other, of a total want of it.

THE YOUNG CHEMIST.

No. XII.

LET us now continue our examination of the action of heat upon fluids. We found* a great difference between the weight of *cold* and *hot* water, and I will now make a few simple experiments to impress this curious fact yet more strongly upon your mind, for you will find by and by that its practical applications are of very great utility.

First of all, I require a piece of thin glass tube about a foot long, and half an inch in diameter, closed at one end, not with a cork or any other kind of stopper, but *Hermetically closed.* Now, I dare say, that you do not know what I mean by this, and therefore I will explain it to you.

* See *Saturday Magazine* Vol. XI., p. 20.

A tube, or any other glass vessel, is said to be *Hermetically closed*, or *sealed*, when its aperture is heated to soften the glass, so as to allow of its being *welded* or *melted* together; the wonderful old Alchymists found out this ingenious plan, and constantly used it not only for securing the strong spirituous, or other costly contents of their glasses, from escaping, as they would do through common corks, or stoppers, but also to prevent inquisitive or dishonest people from examining or stealing them, it being impossible to do either without cutting the glasses with a sharp file, which led to instant detection.

The Alchymists called this *Hermetically closing*, or *sealing*, in honour of a fabulous personage named *Hermes*, whom they supposed was the founder of the art of Alchymy: the chief object of which delusive art (as perhaps you may have read in some of the pages of the *Saturday Magazine*) was the change of the common metals, such as lead and tin, into the precious metals gold and silver, this was called *metallic transmutation*, but was never effected, in spite of the immense labour, and toil, with which it was followed up for nearly eight hundred years.

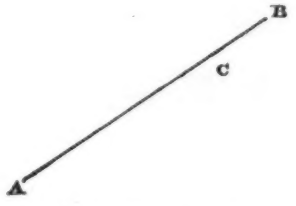
I procured from the glass-house this piece of glass-tube, it is about eighteen inches long, and open at both ends, and will now show you how to close or seal it Hermetically.

Here is the spirit-lamp which we have so often found useful in our former experiments, and its pale, though very hot flame, will soon soften the glass sufficiently for the purpose; I want the tube closed at about six inches from one end, so as to make it a foot long, and therefore at about this part, I pass it backwards and forwards, through the flame, so as to warm it gradually; for if I put it steadily and suddenly into the flame it would be almost sure to crack, just as you so often see a lamp-glass fly when suddenly put over the flame of a reading-lamp, because of the unequal expansion of its inside and outside, as already mentioned on a former occasion.* I keep on warming the tube in this gentle way for a minute or two, and then hold it in the flame, turning it round and round between my fingers, so as to heat it all round at the part where I wish to close it. Now it is quite red-hot and very soft, you see that I can easily bend it; but I wish to close it, and therefore gently pull the two ends of the tube,—the soft glass yields easily to the pull, and contracts in its bore. I still hold it in the flame, turning it gently round and pulling; and now see how I have drawn the sides of the large tube together,—it is very nearly closed, and by making the flame heat it fairly red hot, with one gentle pull it is done.

But the end is not nicely rounded, there is a little knot of glass sticking out, and to get rid of this, I heat the closed end red hot, and then putting the open end right between my lips, blow very gently into the tube,—the soft glass yields to the force of my breath, it expands, and the end is rounded, not so neatly certainly as a glass-worker could do it, but sufficiently so for our purpose; and when the tube is cool it will be ready for our experiment.

I must take care not to lay it down upon any cold surface, lest it should crack: and, therefore, set it with its sealed end uppermost in an ale-glass or a tall gallipot, so that it may cool slowly in the air. Whilst sealing the tube we had a good opportunity of observing the very bad conducting power of glass; I held the tube the whole time, between my naked fingers, and yet they were not burned, nor even would they have been burned if much nearer the red hot part; glass being such a bad conductor of heat. If I had held a metal tube in the flame for a similar time, my fingers would have been severely burned,—the metal being an excellent conductor of heat, and therefore soon becoming very hot from end to end.

The tube is now cool enough to be handled with safety, and I will fill it with cold water, within two inches of its top. I take hold of its closed end, and incline the tube so as to let the flame of the lamp heat the glass just below the surface of the water.



Let A B represent this position; A is the bottom of the tube, and B its top; C is the surface of the water. I heat it very gently at first, and stronger by degrees, until at length you will find that the water at the surface actually boils. Now it is boiling rapidly, and yet I am holding the other end of the tube in my naked hand, and I feel no heat; the water *below* the boiling surface is as cold as when I first poured it into the tube;—convince yourself of this by slowly passing your finger from the closed end towards the upper end, you feel no heat until within about an inch of the boiling water.

Now hear the reason of this. The *boiling hot water* is *specifically lighter** than the cold water, and therefore *floats* upon its surface, as a cork or any other light substance would do; the water is almost a non-conductor of heat, the glass tube is a very bad one, and these three circumstances combine to keep the water cold below.

Supposing the water a conductor of heat, we should be enabled to boil the whole contents of the tube by applying the heat at the surface, because (as we shall hereafter more particularly examine) conductors of heat allow it to travel in all directions, upwards, downwards, and sideways, with the same facility; but I may heat this surface, for a long time, nay actually kindle a flame on it, and still never heat and boil the water below.

Here is a tall ale-glass very nearly full of cold water, I will pour a tea-spoonful of spirit of turpentine upon it, which will float upon the surface, as it is a much lighter fluid than the water; I now inflame the turpentine by a bit of lighted paper, and place the glass on the hob of the grate, to carry off the thick, black smoke, so that it may not annoy us. Here then we have a flame, and a very fierce flame, actually burning on the surface of the water, and heating it as in our first experiment, whilst the water below remains cold.

Let us now return to the water in the tube, holding it at the top, and applying the flame of the lamp to the bottom, what will happen in this case? Why, the water at the bottom will become heated, and rendered *specifically lighter*, it will not remain at the bottom, it *ascends*; colder water *descends*, gets heated, and in its turn ascends, and these ascending and descending currents will continue until the water boils, and steam escapes.

Now the water is nearly boiling, and I can hold the tube no longer with my fingers, for it is so very hot; but by putting on a thick worsted glove, which is a bad conductor, I can manage to hold it without inconvenience, even when the water boils rapidly, which will be the case in a very few seconds.

Thus, then, do we heat water for all our domestic purposes, in kettles, saucepans, &c.; thus, also in brewing-coppers, steam-boilers, &c., not by its con-

* See *Saturday Magazine*, Vol. XI., p. 14.

* See *Saturday Magazine*, Vol. XI., p. 20.

ducting power, but by what it is now usual to call its *carrying power*,—a power brought into action by the application of heat to the *bottom* of the vessels containing the water. You cannot see these *carrying currents*, for they take place during the operation we have just performed; but I have prepared an arrangement which will exhibit them very satisfactorily.

It is a Florence oil-flask, (such as you may purchase at the oil-shops for a few pence); I washed it out with hot water and a bit of pearlash to clean away the oil and dirt, I then filled its bulb with clean water, into which I put a small tea-spoonful of magnesia, rubbed up into a paste with a little water: I tied a string round the neck of the flask, and hung it from this nail in the wall a few hours ago, leaving it perfectly quiet, so that the magnesia might settle to the bottom, as you see it has done. Now, upon applying the flame of the spirit-lamp at a little distance from the bottom, so that it may be gently heated, you will soon find that the magnesia begins to move. Its motions will render the currents evident to you, just in the same way as a feather thrown into the air shows you the direction of the wind,—watch it closely, some small particles are now slowly ascending, they are borne upwards by the currents of hot water, they travel a little way, become cooled, and fall, whilst others rise, and so on, as the heat increases.

Here, then, you have an opportunity of seeing the direction of the ascending and descending currents, which take place during the heating of water, but which escape notice, unless some substance is diffused throughout it, and the experiment made in glass vessels. When the water boils, the whole of the magnesia will be diffused throughout it; but perhaps this will take half an hour or more, and we should burn a great deal of spirit, which is very expensive. I will therefore take away the spirit-lamp, and place this lighted dining-table lamp under the flask, and so let the operation proceed.

The greater heat of this lamp warms the water very rapidly. You now hear a sort of bumping or cracking noise in the flask: this is a curious thing, but admits of an easy explanation, as follows:—

Thousands of small bubbles of steam are formed at the hot bottom of the flask, but instantly meeting with the cold water near them, they are condensed, that is to say they again form water, just as the steam from the tea-kettle does if you hold a cold plate to it, only these steam bubbles are very suddenly condensed, in thousands at a time, and thus a continued jar or shaking is produced against the bottom of the flask, which causes the noise: it becomes less and less as the water becomes hotter, because the condensation is not so rapid, and altogether ceases when the water boils.

You know very well that after a kettle full of water has been on the fire for some time, that it "begins to sing," as folks say; this singing is produced exactly as I have just described, and if you place your hand upon the handle of the kettle you will feel the shaking motion, it ceases,—and so does the singing when the water boils,—*steam* then escapes, and I shall speak of its wonderful nature hereafter.

THE HORNS OF DEER.

THERE are three species of Deer found in this country, namely,—the Red Deer, *Cervus elaphus*; the Fallow Deer, *Cervus dama*; and the Roe Deer, or Roebuck, *Cervus capreolus*.

The growth and the annual shedding of the horns of the Deer, is a very curious and interesting fact. The growth is an astonishing instance of the rapid production of bone under particular circumstances, for a full-grown stag's horn weighs about twenty-four pounds, and the whole of this immense mass of true bone is produced in about ten weeks. During its growth, the branches of the external carotid arteries (the large arteries which carry blood to the head), are considerably enlarged, for the purpose of conveying so large a supply of blood as is necessary for this rapid formation. These vessels extend over the whole surface of the horn as it grows, and the horn itself is at first soft and extremely vascular, so that a slight injury, and even merely pricking it, produces a flow of blood from the wound. It is also protected at this time with a soft, short, hairy or downy coat, which is termed the velvet. When the growth is completed, the substance of the horns becomes dense, the arteries become obliterated, the velvet dries and falls off in shreds, a process which is hastened by the animal rubbing his horns against the branches of a tree. After the pairing-season is past the horn generally loosens, and at last falls off, to be renewed again in the succeeding year. The growth of the horns of the Deer are an indication of the age of the animal. The following engraving shows the growth of the horn of the Red Deer. During the first year, the

HORNS OF RED DEER.

male Deer's horn merely attains the form of a rounded knob; from this it takes the name of *knobber*. In the second year the horns are long and pointed, and are called dags, and the animal has now the name of *brocket*; in the third year, the first of the "brow-antlers" has made its appearance, and the deer becomes a *spayad*; in the fourth the "bez-antler" is added, and he is then a *staggard*. He is a *stag* in the fifth year, when the third antler, or "royal," appears; and in the sixth the commencement of the "sun-royal," or crown, is formed, when he takes the name of *hart*, which he retains through life. At this time he is called a hart or stag. After the seventh year he is said to be *crooked*, or *palmed*, or *crowned*, according to the number of branches composing the sun-royal.

The young male of the Fallow Deer shows no signs of horns till the second year, when they make their appearance as simple "snags," and the animal is called a *pricket*; in the third year two branches are produced, and the top of the "beam" becomes flat-

HORNS OF FALLOW DEER.

tened. The fourth year finds them more developed, and the flattened part deeply indented. In the fifth year, when he acquires the name of a *buck of the first head*, the horns have acquired nearly their full developement; but, in the sixth, some additional snags are added to the flattened part of the beam, which are called *spillers*, or *advancers*, and the palmate portion has become very broad.

The fawn of the Roebuck has no horns the first year; in the second they assume the form of prickets,

or snags; the third year the first antler is added, which stands forward; in the fourth year the second

HORNS OF ROEBUCK.

antler appears, which stands directly backwards; and in the sixth the horns have attained their full developement.

CHAPTERS ON CORONATIONS. No. VI.

HAVING described the services required at the coronation feast, we shall now turn to those which preserve the ancient forms of chivalry, far the most remarkable of which is the service of the KING'S CHAMPION. Trial by combat, as is generally known, was an essential part of British jurisprudence, and continued to be so until the beginning of the reign of George the Fourth, when there having been an appeal of murder, in the case of Abraham Thornton, he was advised, by his counsel, to claim his right of trial by battle. Accordingly, when brought before the Court of King's Bench, he flung down his gage. A solemn argument was afterwards held on the case, when the judges were unanimous that he was entitled to wage his battle. The nearest male relative of the deceased, a lad of sixteen, being manifestly unable to meet Thornton in combat, declined any further proceedings. The public feeling was so much outraged, that the Attorney-General immediately introduced a bill for abolishing the right of appeal in all criminal cases, which passed with little opposition. In former ages the gravest authorities of our law sanctioned the form of trial by wager of battle, quoting as a precedent "the combat between David, for the people of Israel of the one party, and Goliah, for the Philistines of the other party." Pope Eugenius the Third issued a bull, declaring that the ancient usage of wager of battle was an appeal to the judgment of God, and as such should be reverenced and adopted by Christians. It is, therefore, not surprising that we should find the claim to the crown itself in some degree put in issue by an appeal to judicial combat.

The office of Champion was established in England by William the Conqueror, immediately after the battle of Hastings: he conferred the dignity on Robert de Marmion, lord of Fontenay, in Normandy, and hereditary champion to the sovereigns of that duchy; and he gave him the manors mentioned by Sir Walter Scott, on the tenure of the championship. It was on this account that the heralds hailed the imaginary Lord Marmion by the titles which really belonged to the Marmion family.

> They hailed him lord of Fontenaye,
> Of Lutterworth, and Scrivelhaye,
> Of Tamworth tower and town.

The championship was annexed to the manor of Scrivelhaye, or Scrivelsby, in the county of Lincoln; but when the fifth baron de Marmion died without male heirs, in the 20th year of Edward the Second, and his inheritance was divided among his daughters, a doubt arose whether the championship was annexed to the manor of Tamworth or to that of Scrivelsby; at the coronation of Richard the Second the question was decided in favour of the latter, and Sir John Dymoke, knight, performed the office. The championship has now continued in the Dymoke family for more than four hundred years, and the counter-claim of the lords of Tamworth has never been renewed. In allusion to this office the Dymokes have taken the punning motto, "PRO REGE DIMICO," *I fight for the king.*

The champion claims to have, on the coronation day, one of the king's great coursers, with a saddle, harness, and trappings of cloth of gold, and one of the best suits of armour, with cases of cloth of gold, and all such other things appertaining to the sovereign's body, as the sovereign ought to have if personally going into mortal battle. And on the coronation day to be mounted on the said courser, trapped and furnished as aforesaid, being accompanied by the High Constable and Marshal of England, and the royal herald, with a trumpet sounding before him, to come riding into the hall to the place where the sovereign sits at dinner, and there, in the presence of the said sovereign, and in the hearing of all the people, after the trumpet hath made three solemn proclamations, one of the royal heralds to proclaim with an audible voice these words following, or words to the like effect, that "If any person, of whatsoever degree he be, either high or low, will deny or gainsay that ——, next heir of our late sovereign, —— ——, deceased, who was rightful king of the realm of England, ought not to enjoy the crown thereof, here is his (or her) champion, ready by his body to assert and maintain that HE LYES LIKE A FALSE TRAITOR, and in that quarrel to adventure his life on any day that shall be assigned him." And thereupon the said champion throws down his gauntlet; and in case no man shall say that he is ready in that quarrel to combat, then, as hath been usually done at all former coronations of kings and queens of this realm, after the before-mentioned words, "If any one will deny or gainsay that the king (or queen) ought not to be crowned," are proclaimed, the sovereign drinks to the said champion, in a gold cup with a cover. The fees claimed by the champion for this service are the great courser, with its harness and trappings, as above mentioned, as also the above-mentioned armour and trappings of cloth of gold, and the gold cup out of which the sovereign drinks to him, together with its cover. These claims have been invariably allowed.

It appears, from Froissart's account of the coronation of Henry the Fourth, that the champion of that day had some expectation of meeting an adversary. "When dinner was half over," he says, "a knight of the name of Dymock, entered the hall completely armed, and mounted on a handsome steed, richly barded with crimson housings. The knight was armed for wager of battle, and was preceded by another knight bearing his lance; he himself had his drawn sword in one hand, and his naked dagger by his side. The knight presented the king with a written paper, the contents of which were, that if any knight or gentleman should dare to maintain that King Henry was not a lawful sovereign, he was ready to offer him combat in the presence of the king, when and where he should be pleased to appoint. The king ordered the challenge to be proclaimed by the herald in six different parts of the town and the hall, to which no answer was made."

It was a constant tradition among the Scottish Jacobites, that the Young Pretender personally witnessed the coronation of George the Third, and that one of the partisans of the House of Stuart on that occasion took up the champion's gauntlet, leaving his own glove in its stead, with a written acceptance of the challenge. Sir Walter Scott has introduced the incident in his romance of *Redgauntlet*, but it does not seem to rest upon any valid evidence. In one of the magazines of that day, it is said that a lady in the

gallery accidentally dropped a silk glove, which the herald took up, and jocularly handed to the champion, who in a similar spirit asked, "Who is my fair opponent?" But even this anecdote was contradicted, by the herald.

At the coronation of George the Fourth, in 1821, a question was long agitated in the Court of Claims, as to the right of the champion to appoint a deputy, in case of his own personal incapacity, either through age or profession; for the head of the Dymoke family at that time was in holy orders. It was at last determined in favour of the claim, subject to the royal approval, and Mr. Dymoke's nephew, an officer in the Royal Navy, appeared as his representative.

The Lord Grey de Ruthyn, by right of descent from the earls of Pembroke, carries the king's great spurs, before him on the day of coronation. Pembroke was a county palatine, and the services of carrying the spurs, like the extinct services of carrying the swords, belonged only to palatine dignities. The bishop of Durham, as a count palatine, not as a prelate, claims the privilege of supporting the sovereign on the day of coronation.

The lord of the manor of Worksop in the county of Nottingham, which has been recently sold by the duke of Norfolk to the duke of Newcastle, holds his estate by the service of finding the sovereign a right-hand glove at his coronation, and supporting his right arm that day so long as he shall hold the sceptre in his hand. This honourable service was anciently annexed to the manor of Fernham in Buckinghamshire, which was held by the Lords Furnival. From the Furnivals the manor of Fernham descended to the Talbots, earls of Shrewsbury, who exchanged it with Henry the Eighth for the manor of Worksop, but reserved the right of service. Worksop passed to the Howard family in the female line, and the service has since then been performed by the dukes of Norfolk, or their representatives.

The lord of the Isle of Man claims the privilege of presenting two falcons to the sovereign on the day of coronation; and as this claim is connected with some remarkable portions of English history, we shall briefly relate its origin. Magnus the Third, king of Norway and Man, was the last Norwegian monarch who held that island. He died without issue; and Alexander the Third, king of Scotland, partly by force of arms, and partly by a liberal distribution of bribes among the Manx nobles, brought this and many of the western islands of Scotland under his obedience. The English monarchs were by no means pleased to find the kings of Scotland in possession of an island which might enable them to command the commerce of the Irish Sea, and made several efforts to make themselves its masters. At length, in the year 1340, William de Montacute, earl of Salisbury, who was descended from the old Norwegian kings of Man, won the island from the Scots, and sold it to William, Lord Scrope, earl of Wiltshire, and lord high-treasurer to King Richard the Second. Lord Scrope was attainted of high-treason in the first year of Henry the Fourth, and the island was then granted to Henry de Percy, earl of Northumberland, the father of Henry Hotspur, for his services in raising the Lancastrian family to the throne. He was to hold it in grand sergeantry, "by the service of bearing on the days of the coronation of the king and his heirs, at the left shoulder of him and his heirs, by himself or his sufficient and honourable deputy, that naked sword with which King Henry was girded, when he arrived in the port of Holderness, called Lancaster sword, during the procession, and for all the time of the solemnization of the coronation aforesaid."

In the fourth year of Henry the Fourth, the Percies, dissatisfied with what they deemed the stinted measure of gratitude meted out to them by a monarch who was indebted to them for his crown, raised the standard of revolt, but were completely defeated and immediately attainted. Henry then granted the island to Sir John Stanley and his heirs for ever, "with all the royalties and franchises thereto appertaining, and the patronage of the bishopric there, with the style and title of *King of Man*, in as full and ample manner as it had been granted to any former lord thereof; to be held of the king, his heirs, and successors, by liege homage; rendering to the said king two falcons, once only, viz. after the homage done; and rendering to his heirs, kings of England, two falcons on the day of the coronation of his said heirs, for all other services, customs, and demands, as freely, fully, and entirely, as William Scrope, knight, or any other, held the same."

Early in the last century the kingdom of Man descended to the baroness of Knockyn, who was lineally heiress to Sir John Stanley. She married the duke of Athol, and thus the kingdom of Man was united to that duchy. The royalties of Man were sold by the duke of Athol to the English crown under the authority of an act of parliament, but he still holds the lordship of the island by the same honorary service of rendering two falcons on the day of the coronation of the kings of England.

The barons of the Cinque Ports, that is to say, sixteen barons or free men from the towns of Hastings, Dover, Hythe, Rye, Sandwich, Romney, and Winchelsea, have since the coronation of Henry the Fourth established their claim to carry over the sovereign, during the procession, a canopy of cloth of gold, supported by four staves covered with silver, and having four bells of silver gilt at the corner; receiving the canopy, &c., as their fee, and having the privilege of dining at a table on the right hand of the sovereign.

The dean and chapter of Westminster, as successors to the abbot, have established their claim to instruct the sovereign in the rites and ceremonies used at the coronation; to assist the archbishop of Canterbury in celebrating the divine service appointed for that day; to have the custody of the coronation robes; to have robes for the dean and his three chaplains, and for sixteen ministers of the said church; the royal habits put off in the said church, the several oblations and furniture of the church, and the cloth on which the sovereign walks from the west door to the theatre.

The sergeants-at-arms escort the Regalia during the procession: the sovereign is guarded by the honourable band of gentleman pensioners, or gentlemen-at-arms, and the procession is closed by the yeoman of the guard.

In early ages, the sovereign, shortly after his accession, issued a warrant constituting the lord high steward sole judge of a court therein directed to be held, called the COURT OF CLAIMS, to which all persons who held estates by grand sergeantry were to state the nature of the services they were bound to perform, and the fees to which they were entitled. Afterwards others of the Council, and the officers at arms, were directed to assist him with their advice, and by the proclamation of her present Majesty, the duty was committed to the whole of the Privy Council, "or any five or more of them." By these the usual claims were allowed; but in consequence of the procession from Westminster Hall, and the banquet in Westminster Hall, being dispensed with, many of the services were not required.

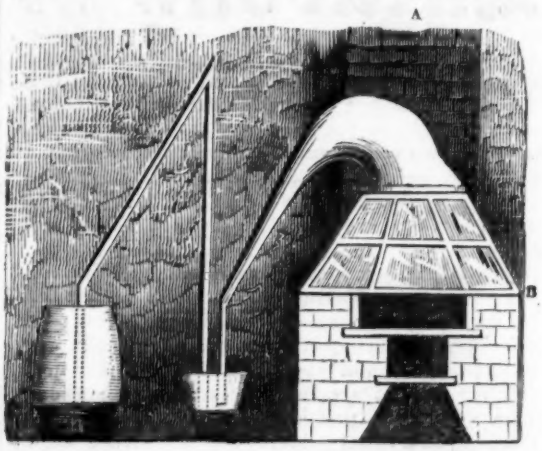
THE ART OF GILDING.

THE process of gilding on metal is known by the name of water-gilding: it is applied to the purpose of gilding metal buttons, the cases, and the works of watches, and, on a larger scale, in the manufacture of those splendid articles in *or mólu*, for which the French are so famous. For these purposes the gold is thus reduced to the state of an *amalgam*. A small quantity of gold in grains, as sold by the refiners, is put into a crucible, or an iron ladle, with about six times its weight of mercury, and being placed over a charcoal fire, the mercury soon dissolves the gold. After the amalgam is made, it is thrown into water, where a part of the mercury separates itself; but the remaining mass, which is the real amalgam, still contains many small portions of mercury, which contain but little, if any, gold. To separate this, the amalgam is screwed up in a piece of wash-leather, and being squeezed gently with the finger and thumb, the superfluous mercury is drained off, and the remaining mass consists of about two parts of mercury, and one part of gold.

In preparing the metal to receive the gold, it is necessary that it should be perfectly cleared of all tarnish, grease, or other extraneous matter. To effect this, it is *pickled* in a mixture of about seven parts of water to one of aquafortis; or, if the work is wanted quickly, four parts water to one of acid may be used, but its action must be carefully watched. The work is then cleaned with a *scratch-brush*, made of fine brass-wire instead of hog's hair.

The next process is to spread the amalgam equally over the work. To effect this, a liquid mixture called the *quickening* is prepared, consisting of aquafortis, in which a small quantity of mercury has been dissolved; the work being dipped into this preparation, its surface is instantly covered with a thin coating of mercury. The amalgam is now applied by means of a piece of flattened copper wire, called the *pencil*, and in consequence of the preparation, it spreads without difficulty. In common work, such as button-making, a quantity of the amalgam is mixed up to the consistence of syrup with aquafortis, and the articles are dipped into it; but no more must be prepared than is necessary for the occasion.

The amalgam which is spread over the surface consists, as we have seen, of mercury and gold. It is now necessary to get rid of the mercury, and leave the gold spread equally over the work. This part of the business is called *drying-off*, and is effected by submitting the article to sufficient heat to convert the mercury into vapour. The furnace used for this purpose is built in front of a common chimney. Suppose A to be the chimney or flue connected with the outer air, the furnace, represented in the engraving, is built in front, and the flue of its fire is connected with that of the chimney. Over the fire, a thick iron plate B is placed, which is heated by the furnace, and above this plate is a framework of iron, glazed in front; an opening being left on each side to admit the arms of the operator. The use of the glass is to prevent the deleterious fumes of the mercury being inhaled by the workman. A kind of still-head is fixed to the top of the glass screen connected with a bent pipe, which descends into a vessel of water; the vessel being closed at the top, the pipe nearly reaches the surface of the water, but does not touch it. A portion of the fumes of the mercury, which rise from the work, as the heat changes the metal into the state of vapour, are condensed in their passage along this tube, and fall to the bottom of the water as fluid mercury: those which are not yet condensed, ascend the second pipe, and passing over its bend, reach the water in the second vessel, in a metallic form.



The gilder, who sits before this stove, places the work on the heated plate. The effect of the heat is to convert the mercury into vapour. When the evaporation of the mercury is completed, the work assumes a dull yellow colour. The scratch-brush is now brought into requisition, and the work is well brushed with it in a shallow wooden trough, filled with beer-grounds or small beer. The acidity of the liquid has, perhaps, some effect in clearing away the remaining parts of the mercury; but its chief use is to prevent the brush scratching the work. Sometimes the work is double gilt, but the scratch-brush must be applied between each gilding, to prepare the surface for the reception of the amalgam.

At other times it is considered expedient to heighten the colour of the gilding, and several plans are resorted to for this purpose. The work is again placed on the fire, and subjected to a considerable degree of heat: it is then plunged into a weak solution of aquafortis in water, and again cleaned with the scratch-brush. At other times, a composition called *gilding-wax* is used: this consists of equal parts of bees'-wax and red chalk, with small portions of alum, verdigris, and green vitriol. With this composition the work is covered, and held over the fire until the wax smokes, and is about to inflame: it is then suddenly cooled in water, and the composition is cleaned by the scratch-brush in the beer-trough.

When the effect called *dead*, or *mat gold*, is required, the work is heated in the furnace, and plunged into an acid solution, such as aquafortis and water. In gilding watch-cases, it is necessary to polish the gold with a burnisher of agate, or some similar substance, which is done in water to prevent the covering of gold being rubbed off.

Iron or steel have so little affinity for mercury that they cannot be covered with gold by means of the amalgam, unless previously coated with copper. This is done by plunging that part of the metal which is to receive the gold into a strong solution of sulphate of copper, (blue vitriol.) The vitriolic acid having a greater affinity to iron than to copper, dissolves the former metal, and precipitates the latter.

TRUTH will be uppermost, some time or other, like cork, though kept down in water.—SIR W. TEMPLETON.

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